Fuzzy Logic-Based Evaluation Model of Handwritten Font Sizes Readability

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ABSTRACT

Handwritten fonts are appealing to designers, but their application in web design can cause a readability problem. Different handwritten letter cuts in different font sizes are not equally readable on all screen types. Therefore, it is necessary to choose the combination of the font type/ and appropriate font size that will be readable on different devices. For this purpose, a study of readability of monoline handwritten font in seven letter cuts (thin, ultra-light, light, regular, semi-bold, bold, and ultra-bold) in several font sizes was conducted. Variable font was used because it contains all style versions of one typeface family, as opposed to standard font families that use different files for each style version. Also, variable font is suitable for use on web because one file with all the necessary typeface styles is significantly smaller in size than classic families with multiple files which shortens the font loading time. Furthermore, model of readability evaluation using the fuzzy logic based postprocessing method for segmentation values related to evaluation criteria is proposed. Prototype of a variable handwritten fonts are tested in responsive web environment, using CSS technology. The results show that handwritten font size readability evaluation has measurable output because the score combines various numeral factors affecting the readability of particular font size in several letter cuts. Using of proposed model in short time can show readability level of some font type in some font size on a new web.

Keywords: artificial intelligence; CSS technology; letter cut; variable font; web site